

ABSTRACT OF THE DISCLOSURE

Methods, constructions, and systems for treating engine emissions. An engine having a crankcase includes air intake, blow-by vent, and exhaust port; the crankcase emits blow-by gases through the blow-by vent and produces an exhaust stream through the exhaust port. The blow-by gases are directed through a blow-by filter to produce filtered gases. The filtered gases are directed back into the air intake of the crankcase; and the exhaust stream is treated with a catalyst arrangement. Total emissions of a turbo-charged diesel engine having an engine crankcase and an exhaust tailpipe are reducible. The total emissions includes particulate matter emissions from the engine crankcase added to the particulate matter emissions from the exhaust tailpipe. The method includes filtering blow-by gases and directing filtered blow-by gases back into the engine crankcase; and treating the exhaust stream with a catalyst; whereby the total emissions are reduced by greater than 25% when compared to the same engine that does not filter blow-by gases nor treat the exhaust stream. Usable systems include: a blow-by filter in gas-flow communication with a blow-by vent of an engine crankcase; and a diesel oxidation catalyst arrangement in gas-flow communication with an exhaust port of an engine crankcase.